

Critical Interior Noise Isolation for Commercial Aircraft Enidine Noise and Vibration Application

By: Jeff Weisbeck

Application Overview

One of the world's largest commercial airframe manufacturers needed to reduce the noise levels transmitted from their planes' exteriors to their pilots and flight attendants' individual rest areas. This noise was interfering with the crew's ability to rest on long flights, a problem that threatened to affect flying performance. Having already experienced great success with ITT Enidine Inc.'s stowage bin isolators for interior noise, the airframe manufacturer again relied on our expertise.



Product Solution

ITT Enidine Inc. immediately determined that the application would require more than just significant noise reduction. The isolated crew, also being a structural member, must carry significant loads under critical conditions. ITT Enidine Inc. worked with our customer to design a system using elastomeric bushings. The product solution offered a fail-safe design, effective operation over a wide temperature range (-40°F to 180°F) and excellent mechanical properties. When subjected to four-pole noise testing, the system achieved average attenuation levels of greater than 20 dB. The system also demonstrated a fatigue life in excess of 120,000 critical load cycles.

Application Opportunity

The customer was impressed by ITT Enidine Inc.'s quick response to their problem, as well as the capacity of our product line to meet their needs. This successful ITT Enidine Inc. solution not only significantly lowered interior rest area noise for flight crews, but also allowed the manufacturer to gain a significant competitive edge with its production of quieter planes. All commercial airframe manufacturers can benefit from this technology.